

ABSTRACT OF THE DISCLOSURE

Disclosed are a flux observer and a sensorless control system of a synchronous reluctance motor. The flux observer includes an estimated flux output unit, a measured flux output unit, and a fixed/rotational coordinate converter. The flux observer estimates a flux of a synchronous reluctance motor by removing higher harmonic components of a current in a rotational coordinate system which flows into the motor. The measured flux output unit measures a flux in a fixed coordinate system by combining a voltage in the fixed coordinate system, which is applied to the motor, and a current in the fixed coordinate system, from which higher harmonic components are removed, with the estimated flux outputted from the estimated flux output unit. The fixed/rotational coordinate converter converts the measured flux outputted from the measured flux output unit to a measured flux in the rotational coordinate system.